



STRATHCONA COUNTY

Installation Guide for New Residential Utility Services



To ensure safe and quality installation of utility services and reduce meter fires, Strathcona County will be implementing the following electrical service installation requirements for new homes (single family, semi-detached, duplex and row housing).

These installation practices will be mandated as of January 1, 2019.

Installation requirements

- Finished Grade must be clearly identified by the Builder on the foundation wall at the riser locations for electrical and gas. It must also be identified where the services leave the building.
- Electrical service lines must be installed in rigid PVC conduit from the meter and run at a minimum depth of 1300mm to a maximum of 1400mm from top of conduit to finished grade.
- Conduit must run along the foundation and be secured to the building with rigid two-hole steel straps secured to the foundation until it reaches the street side end of the building or garage. The anchoring method for the straps shall be sufficient to ensure the conduit is securely held in place during and after backfilling, compaction and settlement. Conduit must extend to the property line.
- There must be one two-hole rigid steel strap on the vertical just above the 90° bend, one on the horizontal just after the 90° bend, one within 150mm of the corner of the building foundation and every 1000mm on the horizontal between these two straps.
- Backfill must be brought to the level of the rigid PVC. No sand will be required for the electrical at the foundation, but the marking tape is required midway between the conduit and the finished grade. The marking tape must remain visible at the electrical riser and the municipal connections upon service inspection.

- Place 300mm of suitable fill over the electrical service at the edge of the building.
- Where the electrical service leaves the foundation (from the street side point), continue with rigid PVC to the property line. Bends in the duct due to piles or other barriers are acceptable, if required. Transition to an approved polytube/duct is allowed, keeping the number of bends to a minimum required amount ending at 1.5m to 2m from the main gas line. No additional strapping is required after it leaves the foundation wall. The ducting can be crossed under the driveway if required, but cannot end under the driveway or sidewalk.
- No splices are allowed in the conduit. If there is a fault, a new cable must be pulled in.
- Conduit must have a bell end on rigid PVC and be sealed at the supply end with duct seal and covered with 300mm of sand.
- Service conduit sleeve must be inside diameter of 4" (100mm) PVC and lengthened to 600mm.
- Allowable conduit sizes as per table:

Conduit Size	Cable AWG	Type
63mm (2.5 in)	#2 to 4/0	USEB 90

- 200A meter bases are required to accommodate the 60mm (2.5")PVC conduit.

Inspection requirements

- Installations require site inspection when the electrical is completed and the stakes are installed.

- Conduit and the 200A meter base must be installed and visible to the property line at inspection (depending on the installers, this can be done in two inspections).
- All OH&S safety requirements shall be observed.

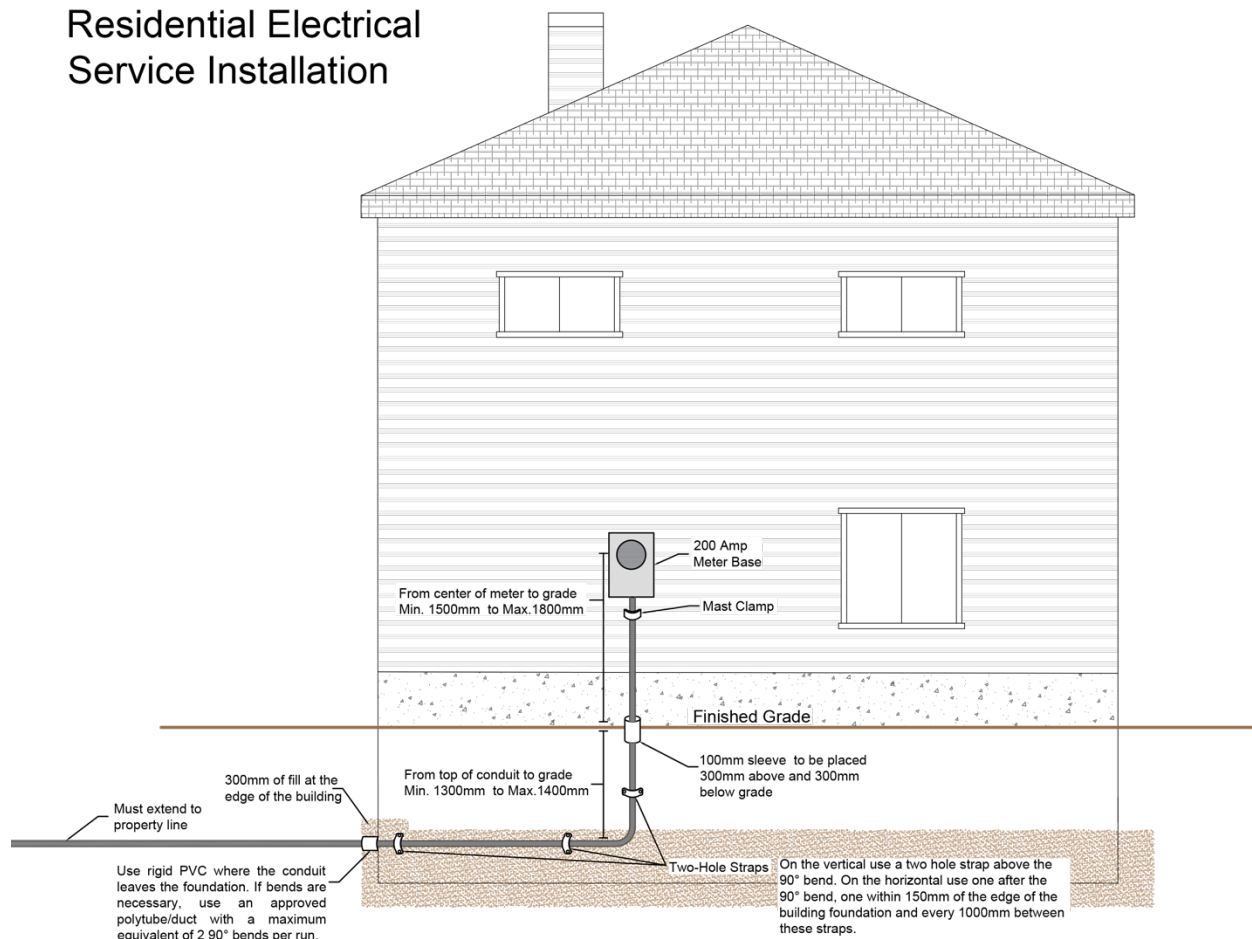
Inspections can be scheduled as early as the next working day, if booked before 3:00 p.m. (780-464-8169).

Rural properties

The installation requirements for **rural properties** are generally the same as above except, the 2.5" PVC must extend a minimum 20' from the foundation wall. If underground services cross a driveway, the 2.5" PVC conduit must be continuous and extend past the driveway border. The 2.5" PVC cannot end under a sidewalk or a driveway.

See the included diagrams for typical installations.

Residential Electrical Service Installation



Residential Electrical Service Installation With Garage Grade Beam

The diagram illustrates the installation of a residential electrical service with a garage grade beam. A house with a gabled roof and three windows is shown. A horizontal line represents the 'Finished Grade'. Below the grade, a 'Grade Beam' is shown, which is a concrete structure. Three 'Unistruts' are shown, which are vertical supports for the conduit. The conduit is shown running from the property line, through the unistruts, and up to a '200 Amp Meter Base' on the exterior wall of the house. The conduit is labeled 'Conduit strapped to Unistruts'. A note indicates 'Unistruts to be supported in two places on the grade beam'. Another note indicates 'Must extend to property line'. The diagram shows the conduit running from the property line, through the unistruts, and up to the meter base.

House

Garage

Conduit from below the meter base will run to the 45° then an additional 45° at the edge of the garage

From the corner wall the conduit will be strapped to the garage

House

Garage

Conduit from below the meter base will run to the 45° then an additional 45° at the edge of the wing wall

From the corner wall the conduit will be strapped to the wing wall.

Past the wing wall there will be no 45° bend and the conduit will not be strapped to the garage.

